



SEQUENCE LISTING

<110> LEE, Sang-Yup
JEONG, Ki-Jun

<120> ESCHERICHIA COLI STRAIN SECRETING HUMAN
GRANULOCYTE COLONY STIMULATING FACTOR (G-CSF)

<130> HYLEE60.001APC

<140> US 10/009,792

<141> 2001-11-13

<150> PCT/KR01/00549

<151> 2001-03-31

<150> KR 10-2000-0017052

<151> 2000-03-31

<160> 27

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Oligopeptide

<400> 1

Ala Gly Pro His His His His His His Ile Glu Gly Arg

1

5

10

<210> 2

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 2

gcgaattcat ggctggacct gccacccag

29

<210> 3

<211> 32

<212> DNA

<213> Artificial Sequence

<220>
 <223> Primer

<400> 3
 gcggatcctt attagggctg ggcaaggtgg cg 32

<210> 4
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 4
 tcctcggggt ggcacagctt gtaggtggca cacagcttct cctggagcgc 50

<210> 5
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 5
 gctgtgccac cccgaggagc tgggtgctgct cggacactct ctgggcatcc 50

<210> 6
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 6
 ctgggtgggg cagctgctca ggggagccca ggggatgccc agagagtgtc 50

<210> 7
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 7
 agcagctgcc ccagccaggc cctgcagctg gcaggctgct tgagccaa 48

<210> 8
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

 <400> 8
 gaattcatat gacccccctg ggccctgcc a gc 32

 <210> 9
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 9
 gaattcatat gactccgtta ggtccagcca gc 32

 <210> 10
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 10
 ggaattcaca tgtttaagtt taaaaagaaa ttc 33

 <210> 11
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 11
 ggctggacct aacggagttg cagaggcgg 29

 <210> 12
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 12
 gcaaccgcct ctgcaactcc gttaggtcca gcc 33

 <210> 13
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 13
 gcgaattctt taaagccacg ttgtgtcctc aaa 33

<210> 14
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 14
 gcgaattctt taaattagaa aaactcatcg agcatc 36

<210> 15
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 15
 caccatcacc atatcgaagg ccgtactccg ttaggtcca 39

<210> 16
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 16
 gatatggtga tggatgatggt gcggggccagc tgcagaggcg g 41

<210> 17
 <211> 507
 <212> DNA
 <213> Homo sapiens

<400> 17
 atggctggac ctgccaccca gagcccatg aagctgatgg ccctgcagct gctgctgtgg 60
 agtgactct ggacagtgc ggaagccacc cccctgggce ctgccagctc cctgccccag 120
 agcttcctgc tcaagtgtt agagcaagtg aggaagatcc agggcgatgg cgcagcgctc 180
 caggagaagc tggcaggtg cttgagccaa ctccatagcg gccttttct ctaccagggg 240
 ctctgcagg ccttgaagg gatctcccc gagttgggtc ccaccttga cactgcag 300
 ctggacgtcg ccgactttgc caccaccatc tggcagcaga tggaagaact gggaatggcc 360
 cctgcctgc agccaccca ggtgcatg ccggccttcg cctctgctt ccagcgccg 420
 gcaggagggg tctagtgc ctccatctg cagagcttc tggaggtgtc gtaccgcgtt 480
 ctacgccacc ttgccagcc ctaataa 507

<210> 18
 <211> 615
 <212> DNA
 <213> Homo sapiens

<400> 18
 atggctggac ctgccaccca gagcccatg aagctgatgg cctgcagct gctgctgtgg 60
 agtgcactct ggacagtgc ggaagccacc ccctggggc ctgccagctc cctgccccag 120
 agcttcctgc tcaagtgtt agagcaagtg aggaagatcc agggcgatgg cgcagcgtc 180
 caggagaagc tgtgtgccac ctacaagctg tgccaccccg aggagctggt gctgctcgga 240
 cactctctgg gcatccccctg ggctccccctg agcagctgcc ccagccaggc cctgcagctg 300
 gcaggctgct tgagccaact ccatagcggc cttttcctct accaggggct cctgcaggcc 360
 ctggaaggga tctccccga gttgggtccc acctggaca cactgcagct ggacgtcgcc 420
 gactttgcca ccaccatctg gcagcagatg gaagaactgg gaatggcccc tgccctgcag 480
 cccacccagg gtgccatgcc ggccttcgcc tctgctttcc agcgcggggc aggaggggtc 540
 ctagttgcct cccatctgca gagcttcctg gaggtgtcgt accgcgttct acgccacctt 600
 gccagccct aataa 615

<210> 19
 <211> 174
 <212> PRT
 <213> Homo sapiens

<400> 19
 Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys
 1 5 10 15
 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
 20 25 30
 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
 35 40 45
 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
 50 55 60
 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
 65 70 75 80
 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
 85 90 95
 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
 100 105 110
 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
 115 120 125
 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
 130 135 140
 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
 145 150 155 160
 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
 165 170

<210> 20
 <211> 531
 <212> DNA
 <213> Homo sapiens

<400> 20
 atgaccccc tgggcctgc cagctccctg cccagagct tcctgctcaa gtgcttagag 60

caagtgagga agatccag agatggcgca gcgctccagg agaagctgtg ccacctac 120
 aagctgtgcc accccgagg gctggtgctg ctctgggcat cccctgggct 180
 cccctgagca gctgccccag ccaggccctg cagctggcag gctgcttgag ccaactccat 240
 agcggccttt tcctctacca ggggctcctg caggccctgg aagggatctc ccccgagttg 300
 ggtccacact tggacacact gcagctggac gtcgccgact ttgccaccac catctggcag 360
 cagatggaag aactgggaat ggccccctgcc ctgcagccca cccagggtgc catgccggcc 420
 ttcgcctctg ctttccagcg ccgggcagga ggggtcctag ttgctccca tctgcagagc 480
 ttcttgaggg tgtcgtaccg cgttctacgc caccttgccc agccctaata a 531

<210> 21
 <211> 175
 <212> PRT
 <213> Homo sapiens

<400> 21
 Met Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu
 1 5 10 15
 Lys Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu
 20 25 30
 Gln Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu
 35 40 45
 Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser
 50 55 60
 Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His
 65 70 75 80
 Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile
 85 90 95
 Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala
 100 105 110
 Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala
 115 120 125
 Pro Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala
 130 135 140
 Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser
 145 150 155 160
 Phe Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
 165 170 175

<210> 22
 <211> 45
 <212> DNA
 <213> Homo sapiens

<400> 22
 atgactccgt taggtccagc cagctccctg ccccgagct tcttg 45

<210> 23
 <211> 15
 <212> PRT
 <213> Homo sapiens

<400> 23
 Met Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu
 1 5 10 15

<210> 24
 <211> 135
 <212> DNA
 <213> Homo sapiens

<400> 24
 atgtttaagt ttaaaaagaa attcttagtg ggattaacgg cagctttcat gagtatcagc 60
 atgttttctg caaccgcctc tgcaactcgg ttaggtccag ccagctccct gcccagagc 120
 ttctgtctca agtgc 135

<210> 25
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 25
 Met Phe Lys Phe Lys Lys Lys Phe Leu Val Gly Leu Thr Ala Ala Phe
 1 5 10 15
 Met Ser Ile Ser Met Phe Ser Ala Thr Ala Ser Ala Thr Pro Leu Gly
 20 25 30
 Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys
 35 40 45

<210> 26
 <211> 180
 <212> DNA
 <213> Homo sapiens

<400> 26
 atgtttaagt ttaaaaagaa attcttagtg ggattaacgg cagctttcat gagtatcagc 60
 atgttttctg caaccgcctc tgcagctggc ccgcaccatc accatcacca tatcgaggga 120
 aggactccgt taggtccagc cagctccctg ccccagagct tctgtctcaa gtgcttagag 180

<210> 27
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Phe Lys Phe Lys Lys Lys Phe Leu Val Gly Leu Thr Ala Ala Phe
 1 5 10 15
 Met Ser Ile Ser Met Phe Ser Ala Thr Ala Ser Ala Ala Gly Pro His
 20 25 30
 His His His His His Ile Glu Gly Arg Thr Pro Leu Gly Pro Ala Ser
 35 40 45
 Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu Glu
 50 55 60